III. Remarks:

A. New Grounds for Rejection

As set forth in Section (11) of the Examiner's Answer to Applicants' appeal brief, the Examiner's Answer contained new grounds of rejection with respect to at least claims 33 and 35. Pursuant to Rule 41.39(b)(1), Applicants have elected to request that prosecution be reopened before the primary examiner by filing a reply under 37 C.F.R. 1.111. Applicants have presented arguments and amendments in this response directed to the new grounds.

B. Rejection of Claims 1, 3-4, 16, 21, 32 and 34 as being anticipated by Haddox

The Action rejects Claims 1, 3-4, 16, 21, 32 and 34 as being anticipated by U.S. Patent No. 2,830,648 to Haddox.

Independent claim 1 has been amended such that its punctuation shows more clearly that the curing oven tower of the insulation manufacturing system includes (a) a plurality of vertical oven zones and (b) a conveyor system. Amended claim 1 also recites that the conveyor system is disposed within said curing oven tower and includes a plurality of pairs of counter-rotating conveyors arranged to move said mat through said plurality of vertical oven zones for curing.

Claim 3 has been amended consistent with the amendments to claim 1.

The Examiner argues that claim 1, as previously presented, does not require that the conveyor system be located within the curing oven tower. Applicants submit that amended claim 1 clearly locates the conveyor system within the curing oven tower. Applicants respectfully request reconsideration of this rejection in view of these amendments and the arguments set forth below.

Moving the matt vertically in the curing oven tower provides efficiencies in the exposure of the mat to the heat generated within the curing oven tower, when compared to a purely horizontal movement. For example, in certain claimed embodiments, the path of the mat overlaps itself, exposing the mat to heated air multiple times as it rises within the curing oven tower.

The conveyor system of Haddox within oven 40 only moves the insulation mat horizontally through a horizontal oven zone, and therefore is not a conveyor system disposed within said curing oven tower comprising a plurality of pairs of counter-rotating conveyors

arranged to move said mat through said plurality of vertical oven zones for curing, said mat being disposed between said counter-rotating conveyors.

The Examiner's focus with respect to the oven tower must be on "oven 40" of Haddox, a side view of which is shown in FIG. 1. Haddox conveys its mat through only one horizontal oven zone, and the oven 40 does not include a conveyor system disposed therein that includes a plurality of pairs of counter-rotating conveyors. Belt 26 and belt 41 within the oven 40 represent only one pair of conveyors within oven 40 and only move mat 37 horizontally. For at least these reasons, it is submitted that claim 1 is not anticipated by and is allowable over Haddox.

Claims 3-4 and 32 depend from claim 1 and are, therefore, also not anticipated by Haddox. Further, Claim 3 recites that "said conveyor system comprises rotating conveyors cooperating to move said insulation mat "both horizontally and vertically within said curing oven tower in a serpentine path." Claim 4 depends from claim 3 and recites that the path vertically overlaps itself. In rejecting these claims, the Examiner relies on features of Haddox that are located outside of the curing oven 40. It is submitted that, as discussed above, the mat of Haddox moves only horizontally "within said curing oven tower." Therefore, Haddox does not teach the recited serpentine path within the curing oven tower. For at least these reasons, it is submitted that claims 3 and 4 are not anticipated by and are independently allowable over the cited reference.

Independent claim 16 has also been amended to more clearly show that the curing oven tower of the insulation manufacturing system includes (a) a heat source and (b) a conveyor system disposed within the curing oven tower. Amended claim 16 also recites that the conveyor system includes "cooperable pairs of counter-rotating conveyors" that are arranged "for moving said insulation mat both vertically and horizontally within said curing oven tower in a serpentine path." For at least the reasons set forth above in connection with claims 1 and 3, it is submitted that Haddox, which conveys its mat only horizontally through a curing oven, does not teach these features. Therefore, it is submitted that claim 16 is not anticipated by Haddox.

Claims 21 and 34 depend from claim 16 and are, therefore, not anticipated by Haddox for at least the reasons set forth above in connection therewith.

C. Claims 8, 10-15, 22-29, 33 and 35

The Action rejects claims 8, 10-15, 22-29, 33 and 35 as being anticipated by U.S. Patent No. 2,467,291 to Brelsford.

Independent claim 8 is directed to a method of curing insulation comprising moving an uncured or partially cured insulation mat through a curing oven tower where the curing oven tower comprises a plurality of vertical oven zones comprising heat sources. Claim 8 has been amended to recite that the moving step includes the step of moving the insulation mat vertically within the curing oven tower through the plurality of vertical oven zones for curing.

Claims 10, 12 and 13 have been amended consistent with the amendments to claim 8.

It is clear from the side view of FIG. 6 of Brelsford that Brelsford's system includes one horizontal oven zone and only moves its mat in a horizontal direction through the horizontal oven zone. Brelsford, therefore, does not move the mat vertically within the curing oven tower through a plurality of vertical oven zones for curing. For at least these reasons, it is submitted that claim 8 is not anticipated by Brelsford.

Claims 10-15 depend from claim 8 and are, therefore, also not anticipated by Brelsford. Claims 10-13 recite further that the mat is moved within the curing oven in a serpentine path. It is submitted that Brelsford moves its mat only horizontally within the disclosed curing oven and therefore fails to teach this serpentine feature. For this additional reasons, it is submitted that claims 10-13 are independently allowable over the cited reference.

Under the new grounds for rejection, Claim 33 now stands rejected by the Examiner as being anticipated by Brelsford rather than Haddox. Claims 33 depends from claim 13, which ultimately depends from claim 8, and is, therefore, allowable for at least the reasons set forth in connection therewith. By way of amendments to claims 8, 10, 12, 13 and 33, claim 33 requires the recited spaced, perforated flights to be within the curing oven tower. It is submitted that Brelsford does not teach this feature. Therefore, it is submitted that claim 33 is not anticipated by and is allowable over Brelsford.

Independent claim 22 is also directed to a method of curing insulation. This claim has been amended to better clarify that the recited movement of the insulation mat is horizontally

and vertically in a serpentine path within the curing oven tower. As discussed above, Brelsford only teaches horizontal movement through a curing oven and thus does not disclose the recited moving step. For at least these reasons, it is submitted that claim 22 is not anticipated by the cited reference.

Claims 23, 24 and 25 have been amended consistent with the amendment to claim 22.

Claims 23-29 depend from claim 22 and are, therefore, not anticipated by and are allowable thereover for at least the reasons set forth above in connection therewith.

Under the new grounds for rejection, Claim 35 now stands rejected by the Examiner as being anticipated by Brelsford rather than Haddox. Claims 35 depends from claim 25, which ultimately depends from claim 22, and is, therefore, allowable for at least the reasons set forth in connection therewith. By way of amendments to claims 22-25 and 35, claim 35 requires the recited spaced, perforated flights to be within the curing oven tower. It is submitted that Brelsford does not teach this feature. Therefore, it is submitted that claim 35 is not anticipated by and is allowable over Brelsford.

D. Claims 7, 20, 30 and 31

Claims 7 and 20 stand rejected as being obvious from Haddox in view of U.S. Patent No. 3,413,731 to Fleissner. These claims depend from claims 1 and 16 and are, therefore, allowable for at least the reasons set forth above in connection therewith.

Claim 30 stands rejected as being obvious from Haddox in view of U.S. Patent No. 6,357,504 to Patel. Claim 31 stands rejected as being obvious from Brelsford in view of Patel. These claims depend from claims 3 and 22, respectively, and are, therefore, allowable for at least the reasons set forth above in connection therewith.

Claims 30 and 31 require not only that a nip zone is formed by conveyors that are moving the insulation mat horizontally and those that are moving the mat vertically through the curing oven tower, and that the nip zone includes at least one inclined belt for receiving said insulation mat, but also recite that the nip zone is formed within the curing oven tower.

The "nip" identified by the Examiner in Patel (Column 12, Lines 22-65) is shown in FIG. 10. This "nip" (also called a "pinch" by Patel) is formed between rotating pressing rolls 116A and 118A and between pressing rolls 116B and 118B. These rolls pinch a sheet 64a against the top surface of a mat, which is conveyed in a purely horizontal direction by single horizontal conveyor 112 (which, incidentally, forms no part of the "nip" of Patel). Simply, Patel does not disclose a nip zone formed by horizontal and vertical cooperating conveyors, or a nip zone "including at least one inclined belt for receiving said insulation mat," or one that would be formed within a curing oven. Therefore, it is submitted that the combination of Haddox/Brelsford and Patel does not teach each feature of claims 30 and 31. Claims 30 and 31, therefore, are not obvious from and are allowable over the cited combinations for at least these additional reasons.

E. New Claim

New claim 36 is presented above and is directed to an insulation manufacturing system. The system includes a curing oven including: at least one heat source for heating a space within said curing oven defined between an entrance and an exit to said curing oven; and a conveyor system disposed within said curing oven, said conveyor system arranged to define a path for said insulation mat to travel through said space, said path having at least one turn such that said path is longer than a distance between said entrance and exit of said curing oven.

Support for claim 36 can be found in, for example, FIGS. 3 and 4 of the application as filed and the supporting description thereof.

Claim 37 is newly presented and depends from claim 36. Claim 37 recites that the at least one turn includes at least one vertical turn and at least one horizontal turn. Support for this claim can also be found in, for example, FIGS. 3 and 4 of the application as filed.

Examination and allowance of these claims are respectfully requested.

IV. Conclusion

In view of the foregoing remarks and amendments, Applicants submit that this application is in condition for allowance at an early date, which action is earnestly solicited.

The Commissioner for Patents is hereby authorized to charge any additional fees or credit any excess payment that may be associated with this communication to deposit account **04-1679**.

Respectfully submitted,

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